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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/604,813	08/19/2003	Kouji Oohara	S1C-03-024	1812

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EXAMINER	
PARRIES, DRU M	
ART UNIT	PAPER NUMBER
2836	
MAIL DATE	DELIVERY MODE
07/01/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/604,813	OOHARA, KOUJI	
	Examiner	Art Unit	
	DRU M. PARRIES	2836	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *24 March 2008*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *28-48* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *28-48* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1. In view of the Appeal Brief filed on March 24, 2008, PROSECUTION IS HEREBY REOPENED. A new ground of rejection is set forth below.

To avoid abandonment of the application, appellant must exercise one of the following two options:

(1) file a reply under 37 CFR 1.111 (if this Office action is non-final) or a reply under 37 CFR 1.113 (if this Office action is final); or,

(2) initiate a new appeal by filing a notice of appeal under 37 CFR 41.31 followed by an appeal brief under 37 CFR 41.37. The previously paid notice of appeal fee and appeal brief fee can be applied to the new appeal. If, however, the appeal fees set forth in 37 CFR 41.20 have been increased since they were previously paid, then appellant must pay the difference between the increased fees and the amount previously paid.

A Supervisory Patent Examiner (SPE), Michael Sherry, has approved of reopening prosecution by signing below:

/Michael J Sherry/

Supervisory Patent Examiner, Art Unit 2836

2. Applicant's arguments with respect to the rejection(s) of the claims have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection has been made (see below).

3. As to the Applicant's arguments regarding the use of composite signals, the Examiner agrees that lamps and un-controlled devices don't need composite signals, however, there are some controlled devices in Spencer's bicycle system (i.e. the display and gear shift driving component) that need both power and data signals and for those devices, a composite signal is beneficial because it requires less wiring.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims 28-32, 34-39, 41-46 and 48 are rejected under 35 U.S.C. 103(a) as being unpatentable over Spencer et al. (6,047,230), Tarpenning et al. (6,181,344), Admitted Prior Art (APA), and Schwaller (5,247,430). Regarding independent claim 28, Spencer teaches a bicycle

control apparatus comprising a programmed power/control circuit (21) that receives power from a power supply (30) and outputs power and control signals to bicycle components, including first bicycle components (display 31 & gear shift driving component 29; Fig. 2). The display and the gear shift driving component both receive control signals from the power/control circuit and are controlled based on those signals. Spencer teaches his gear shift driving component having a CPU for decoding the information in the control signals and shifting gears in response to the decoded control signals.

Spencer fails to explicitly teach a second electrical bicycle component. Tarpenning teaches an LCD display including a backlight which can be turned ON and OFF (Col. 6, lines 1-4). It would have been obvious to one of ordinary skill in the art at the time of the invention to implement Tarpenning's LCD display with backlight into Spencer's invention as first (display) and second (backlight) electrical bicycle components, so that a user could be able to read the display at night. In this instance, the backlight of the LCD display doesn't receive any control signals, just power signals to turn the light ON and OFF.

Spencer fails to explicitly teach the power and control signals being combined into one composite signal having both a power and control signal. APA teaches the technology for communicating both power and control signals using composite signals (first sentence of [0003]). It would have been obvious to one of ordinary skill in the art at the time of the invention to use composite signals to supply both power and control signals to the first bicycle components to reduce the amount of wires used in the system. Also, due to the above combination, it would be necessary for all of Spencer's first bicycle components to have a CPU, like Spencer's gear shift driving component, to receive the composite signal and decode the

signal to extract the information contained in the control signal component to allow the first bicycle components to function as intended by the power/control circuit.

Spencer fails to explicitly teach a power stabilizing circuit. Schwaller teaches a bicycle control apparatus comprising a power stabilizing circuit (1) that receives a signal that includes power and outputs a stable output power to a second electrical component (i.e. lights) via pulsed signal that has ON and OFF components (Fig. 4; Col. 3, lines 31-36). It would have been obvious to one of ordinary skill in the art at the time of the invention to implement Schwaller's power stabilizing circuit into Spencer's invention to receive the composite signal and output a stable and correct amount of power to all of the second electrical bicycle components (i.e. backlight of the LCD display) in Spencer's invention, so that no lights will blowout due to overvoltage.

The above teachings also read on claims 38, 41, 43, 44, and 48.

Regarding claims 29-31, and 42, Spencer teaches the power/control circuit comprising a CPU. He also teaches the control signals having ON and OFF components (pulses), particularly for his display. Spencer also teaches that his gear shift driving component drives a gear shift mechanism having a plurality of gear ratios.

Regarding claims 32, 45 and 46, Schwaller teaches his power stabilizing circuit comprising a capacitor coupled in parallel with the second electrical component (Fig. 2).

Regarding claims 34-37, Spencer fails to explicitly teach the type of supply that is powering the bicycle apparatus. Schwaller teaches power being derived for a bicycle apparatus via AC (G) and DC (battery, 8; Fig. 4) sources, wherein the AC source is being provided from a dynamo hub mounted on the front wheel of the bicycle (Col. 9, lines 12-14; Fig. 12). It would

have been obvious to one of ordinary skill in the art at the time of the invention to use Schwaller's AC and DC power sources to supply power to the system since Spencer was silent as to the type of source used and Schwaller teaches sources known to work in the bicycle art. Also, having two sources allows for more reliability when it comes to powering components.

Regarding claim 39, Spencer teaches the control signal component to the display (31) comprising speed indicating signals (speed data to be displayed).

6. Claims 33 and 47 are rejected under 35 U.S.C. 103(a) as being unpatentable over Spencer et al. (6,047,230), Tarpenning et al. (6,181,344), Admitted Prior Art (APA), and Schwaller (5,247,430) as applied to claims 28, 32, and 44-46 above, and further in view of Gohda (4,609,982). The above references teach a bicycle control apparatus as described above. Spencer fails to teach a diode for preventing reverse current. Gohda teaches a stabilizing circuit having a diode (D1) coupled to prevent reverse current to the power circuit (Fig. 1). It would have been obvious to one of ordinary skill in the art at the time of the invention to add a blocking diode in the stabilizing circuit of the combination Spencer invention to prevent reverse current from flowing back into the power/control circuit.

7. Claim 40 is rejected under 35 U.S.C. 103(a) as being unpatentable over Spencer et al. (6,047,230), Tarpenning et al. (6,181,344), Admitted Prior Art (APA), and Schwaller (5,247,430) as applied to claims 28 and 39 above, and further in view of Tomita (JP 07-229909 A). The above references teach a bicycle control apparatus as described above. Spencer fails to explicitly teach how the power/control circuit derives the speed-indicating signal for the display. Tomita teaches a speedometer, which consists of a waveform shaping circuit, inside the controller, that displays the running speed of a bicycle based on the output of an alternating

current generator (Abstract) (i.e. the hub dynamo of Schwaller), and based on the speed detected derives the speed indicating signal in Spencer's invention. It would have been obvious to one of ordinary skill in the art at the time of the invention to implement this circuit into the combination Spencer invention since the Spencer invention was silent as to how the speed indicating signal is derived and Tomita teaches a method known in the art that would allow for accurate control of the gear shift driving component via his speedometer and waveform shaping circuit.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dru M. Parries whose telephone number is (571) 272-8542. The examiner can normally be reached on M-Th from 9:00am to 6:00pm. The examiner can also be reached on alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Sherry, can be reached on 571-272-2084. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Michael J Sherry/

Supervisory Patent Examiner, Art Unit 2836

DMP

6-25-2008